

Exemption No. 1870B

UNITED STATES OF AMERICA  
DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION  
WASHINGTON, DC 20591

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In the matter of the petition of

THE BOEING COMPANY

for an exemption for §§ 25.807(c)(1)  
and (5), 25.809(f)(1), and 25.813(b) of  
the Federal Aviation Regulations

Regulatory Docket No. 13203

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GRANT OF EXEMPTION

By letter dated September 17, 1980, Mr. Reginald Utting, Manager, Airworthiness, 747 Division, The Boeing Company (Boeing), P. O. Box 3707, Seattle, Washington 98124, petitioned for an amendment of Exemption No. 1870A to permit the type certification of Boeing Model 747-200F and 747-200C airplanes for carriage on the upper deck of up to five noncrewmembers (persons not necessarily assigned some duty associated with the operation of the airplane) in addition to crewmembers, with a limit on total upper deck occupancy of eight. Exemption No. 1870A, issued March 10, 1977, for the Boeing Company, provides for the carriage of up to three noncrewmembers in addition to five crewmembers, with a limit on total upper-deck occupancy of eight.

Sections 25.807(c)(1) and (5), 25.809(f)(1), and 25.813(b) of the Federal Aviation Regulations (FAR) set forth, in pertinent part, respectively, the requirements for the number, size, and location of passenger emergency exits, descent assist means, and exit assist space. Exemption No. 1870A grants an exemption from these requirements to the extent necessary to permit the type certification of the Model 747-200F and 200C airplanes having a main-deck cargo configuration and a nonstandard emergency exit configuration on the upper deck, for a total occupancy of eight, which includes up to three noncrewmembers in addition to the crewmembers. The nonstandard emergency exit configuration approved under the exemption consists of an emergency exit having the dimensions of a Type I emergency exit on the right side of the airplane and an overhead escape hatch with individual inertia reels for each occupant.

VS-80-440-E

CC: H.G. Badger  
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JM Staudel (FMA)

Three of the inertia reels are equipped with body harnesses for the noncrewmembers. The exemption restricts the noncrewmembers to persons in limited categories, such as employees of the operator, certain military and government personnel, and cargo handlers. The exemption requires that the noncrewmembers be found by the operator to be physically able to use the emergency escape provisions and that they be briefed by a flight crewmember on the use of the provisions prior to each flight.

In support of its petition, Boeing has provided the following information:

1. The petition is merely a request for liberalization of the ratio of flight crewmembers to other persons to be carried on some cargo missions. Reducing the number of flight crewmembers to three and increasing the noncrewmembers to five still provides a more than adequate ratio for leadership and control during an emergency evacuation.

2. The escape provisions on the affected airplanes are unchanged from those described in Exemption No. 1870A, except that five body harnesses, for use with inertia reels, will be provided for the additional persons instead of the previous three.

3. Cargo operators need a variety of mission support personnel in flight or at locations into which their cargo airplanes operate. One cargo operator in particular needs additional persons who would be carried on the upper deck to support the cargo operation. For example, in the carriage of animals, such as race horses, there is a need for special attention in flight and at the destination.

4. The safety and efficiency of many cargo missions are dependent upon an adequate number of trained, support personnel. Presently, such persons must travel to the cargo destination by commercial transportation. If these key people are delayed, the entire cargo mission may be jeopardized. The surest, most effective, and cheapest way to transport such persons is aboard the cargo flight they are to support. This will improve the utility of cargo airplanes and increase the efficiency and safety of operation.

Based on the above information, the FAA agrees with the petitioner that an equivalent level of safety will be maintained if the upper-deck occupancy limitations are revised as requested, and the additional body harnesses are provided. With the total upper-deck occupancy remaining at eight as currently approved, the ratio of the maximum of five noncrewmembers to the three crewmembers still provides for adequate guidance and assistance of noncrewmembers by trained crewmembers in an emergency situation. Any increase in the total occupancy above eight would significantly increase the demands on the upper-deck emergency evacuation system and necessitate a complete reassessment of the system.

The Boeing Company's petition for amendment of exemption was published in the Federal Register on December 4, 1980 (45 FR 80400). No comments were received.



In consideration of the foregoing, the FAA finds that the granting of an exemption, to the extent described below, will not adversely affect safety and is in the public interest. Therefore, pursuant to the authority contained in Sections 313(a) and 601(c) of the Federal Aviation Act of 1958, which has been delegated to me by the Administrator (14 CFR 11.53), The Boeing Company is hereby granted an exemption from §§ 25.807(c)(1) and (5), 25.809(f)(1), and 25.813(b) of the Federal Aviation Regulations to the extent necessary to permit type certification of the Models 747-200F and 200C [main-deck cargo configuration] for carriage on the upper deck of not more than five persons other than flight crewmembers, with the total number of upper-deck occupants not to exceed eight, when the upper deck is configured with one approved emergency exit having the dimensions of a Type I emergency exit, and one approved emergency exit hatch that has eight inertia reels and five body harnesses, subject to the following condition:

The FAA-approved airplane flight manual must contain an operating limitation restricting total upper-deck occupancy to eight persons and occupancy by other than flight crewmembers to a maximum of five persons, designated by the operator, that are-

1. Included in one of the following categories:

- (a) A crewmember.
- (b) An employee of the operator.
- (c) An FAA air carrier inspector or an authorized representative of the National Transportation Safety Board who is performing official duties.
- (d) Any person determined by the operator, for the particular flight on which carried, to be necessary for:
  - (1) The safety of the flight.
  - (2) The safe handling of animals.
  - (3) The safe handling of radioactive materials.
  - (4) The security of valuable or confidential cargo.
  - (5) The preservation of fragile or perishable cargo.
  - (6) The operation of special equipment for loading or unloading cargo.
  - (7) The loading or unloading of outsize cargo.
- (e) A person travelling to or from an assignment by the operator involving a function described in paragraph 1(d).
- (f) A person performing duty as an honor guard accompanying a shipment made by or under the authority of the United States.

- (g) A military courier, military route supervisor, military cargo contract coordinator, or a designated flight crewmember of a military cargo contract air carrier or commercial operator when carriage of such person is specifically authorized by the appropriate U.S. armed force.

2. Briefed by a flight crewmember on the use of the escape means prior to each flight; and

3. Found by the operator to be physically able to use the escape means provided.



M. C. Beard  
Director of Airworthiness

Issued in Washington, DC, on October 26, 1981